

[www.pwc.com](http://www.pwc.com)

# *Indiana Public Retirement System*

State Excise Police, Gaming Agent, Gaming  
Control Officer, and Conservation Enforcement  
Officers' Retirement Plan

Actuarial Valuation as of  
June 30, 2011



January 31, 2012

Board of Trustees  
Indiana Public Retirement System  
1 North Capitol, Suite 001  
Indianapolis, IN 46204

**Re: Certification of the Actuarial Valuations of the Indiana Public Retirement System as of June 30, 2011**

Dear Board of Trustees:

Actuarial valuations are performed annually for the Indiana Public Retirement System ("INPRS") defined benefit pension plans ("Plans"). The results of the latest actuarial valuations, which were prepared as of June 30, 2011, are presented in individual valuation reports for each fund and were prepared pursuant to the engagement letter between INPRS and PricewaterhouseCoopers LLP ("PwC"), dated June 7, 2010. The reports are intended to provide the Board of Trustees ("Board") with information on the funded status of the Plans, development of the contribution rates, and certain financial statement disclosure information.

Under Indiana statutes, employer contribution rates are adopted annually for each Plan by the Board. These rates are actuarially determined based on the Board's funding policy and adopted actuarial assumptions. Contribution rates determined by the actuarial valuation become effective either twelve or eighteen months after the valuation date, depending on the applicable employer. For example, the rates determined by the June 30, 2011 actuarial valuation and adopted by the Board will become effective on either July 1, 2012 or January 1, 2013. If new legislation is enacted between the valuation date and the date the contribution rates become effective, the Board may adjust the recommended rates before adopting them, in order to reflect this new legislation. Such adjustments are based on information supplied by the actuary.

**Financing Objectives and Funding Policy**

In setting the contribution rates, the Board's principal objectives have been:

- To set contribution rates such that the unfunded actuarial accrued liability ("UAAL") will be amortized over a 30-year period.
- To set contribution rates such that they remain relatively level over time.

To accomplish this, the Board's funding policy requires that the employer contribution rate be equal to the sum of the employer normal cost rate (which pays the current year cost) and an amortization rate which results in the amortization of the UAAL in equal installments.

At the December 16, 2011 meeting, the Board resolved to discontinue the use of contribution rate smoothing rules previously employed for the Public Employees' Retirement Fund, the State Excise Police, Gaming Agent, Gaming Control Officer, and Conservation Enforcement Officers' Retirement Plan, the 1977 Police Officers' and Firefighters' Pension and Disability Fund, and the Prosecuting Attorneys' Retirement Fund. For political subdivisions participating in the Public Employees' Retirement Fund, a systematic method for migrating all employers to a single contribution rate was adopted.

No membership growth is anticipated in setting the contribution rate. This is consistent with GASB #25, which prohibits anticipating membership growth in determining the minimum Annual Required Contribution ("ARC").

**Progress Toward Realization of Financing Objectives**

The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) is a standard measure of a Plan's funded status. In the absence of benefit improvements, it should increase over time, until it reaches 100%. The combined funded ratio for all Plans decreased by 2.7% from the preceding year to 83.4%, primarily due to the delayed recognition of asset losses from 2008 - 2009 in the Actuarial Value of Assets, partially offset by asset gains since such time and changes to some of the actuarial assumptions pursuant to the experience study.



### Benefit Provisions

The benefit provisions reflected in the valuation reports are those which were in effect at June 30, 2011, as set forth in the related Indiana statutes. None of the Plans had any material changes in benefit provisions since the 2010 valuation.

### Assets and Member Data

The valuations were based on asset values of the trust funds and member census data as of June 30, 2011. All asset and member data was provided by INPRS. While certain checks for reasonableness were performed, the data was used unaudited. The accuracy of the results presented in the reports is dependent upon the accuracy and completeness of the underlying asset and census information.

### Actuarial Assumptions and Methods

The actuarial assumptions used in the June 30, 2011 valuations were adopted by the Board pursuant to the Experience Studies of September 2011, which reflect the experience period from July 1, 2005 and June 30, 2010. The actuarial assumptions for interest rate, COLA, and amortization method were approved by the Board in September 2010 for use in the 2010 valuations. The actuarial assumptions and methods are summarized in the Actuarial Assumptions and Methods section of each valuation report. The actuarial assumptions and methods are reasonable for the purposes of the valuation reports and comply with the parameters set forth in Statements No. 25 and No. 27 of the Governmental Accounting Standards Board ("GASB"). Different assumptions and methods may be reasonable for other purposes. As such, the results presented in the valuation reports should only be relied upon for the intended purpose.

### Certification

We certify that the information presented herein is accurate and fairly portrays the actuarial position of each Plan administered by INPRS as of June 30, 2011.

This report contains the required accounting information to be included in the Comprehensive Annual Financial Report. This information has been prepared in accordance with our understanding of Governmental Accounting Standards No. 25 and No. 27 (as amended by No. 50).

To the best of our knowledge this actuarial statement is complete and accurate and has been prepared in accordance with generally accepted actuarial principles and practice and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of Indiana state law. The undersigned actuaries are members of the Society of Actuaries and other professional organizations, including the American Academy of Actuaries, and meet the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States relating to pension plans. There is no relationship between PwC and INPRS that may impair our objectivity.

This document was not intended or written to be used, and it cannot be used, for the purpose of avoiding U.S. federal, state, or local tax penalties. This includes penalties that may apply if the transaction that is the subject of this document is found to lack economic substance or fails to satisfy any other similar rule of law. This document has been prepared pursuant to an engagement letter between INPRS and PwC, and is intended solely for the use and benefits of INPRS and not for reliance by any other person.

Respectfully submitted,

---

Ms. Cindy Fraterrigo  
Member, American Academy of Actuaries  
Fellow of the Society of Actuaries  
Enrolled Actuary (No. 11-06229)

---

Mr. Sheldon Gamzon  
Member, American Academy of Actuaries  
Fellow of the Society of Actuaries  
Enrolled Actuary (No. 11-03238)

---

Mr. Brandon Robertson  
Member, American Academy of Actuaries  
Associate of the Society of Actuaries  
Enrolled Actuary (No. 11-07568)

---

## TABLE OF CONTENTS

<b>I. EXECUTIVE SUMMARY</b>	<b>1</b>
<b>II. FUNDING</b>	
A. Development of Funded Status	7
B. Unfunded Actuarial Accrued Liability Reconciliation	8
C. Actuarial Accrued Liability Reconciliation	9
D. Reconciliation of Market Value of Assets	10
E. Reconciliation of Actuarial Value of Assets	11
F. Contribution Rate	12
G. Unfunded Actuarial Accrued Liability Amortization Schedule	13
H. History of Employer Contribution Rates	14
I. Approximate Investment Return for Year Ending June 30, 2011	15
J. Historical Investment Experience	15
<b>III. ACCOUNTING</b>	
A. Assumptions and Methods Under GASB #25 and #27	16
B. Membership Data	16
C. Statement of Plan Net Assets	17
D. Statement of Changes in Plan Net Assets	18
E. Schedule of Funding Progress	19
F. Schedule of Employer Contributions	19
G. Development of Net Pension Obligation (NPO)	20
H. Three-Year Trend Information	20
I. Solvency Test	21
<b>IV. CENSUS DATA</b>	<b>22</b>
<b>V. ACTUARIAL ASSUMPTIONS AND METHODS</b>	<b>30</b>
<b>VI. SUMMARY OF PLAN PROVISIONS</b>	<b>34</b>
<b>VII. DEFINITION OF TECHNICAL TERMS</b>	<b>39</b>

---

## SECTION I - EXECUTIVE SUMMARY

### **HIGHLIGHTS OF THE ACTUARY'S REPORT**

This report presents the results of the actuarial valuation of the State Excise Police, Gaming Agent, Gaming Control Officer, and Conservation Enforcement Officers' Retirement Plan (the "C&E Fund") and has been prepared to present the current funded status of the Plan, contribution requirements for calendar year 2013 (January 1, 2013 through December 31, 2013), and certain financial statement disclosure information. The valuation was performed using census data for plan members as of June 30, 2011 provided by INPRS, asset information as of June 30, 2011 provided by INPRS, the actuarial assumptions and methods approved by the Board and summarized in Section V, and the plan provisions effective June 30, 2011 as summarized in Section VI.

#### **Contribution Rate**

The C&E Fund contribution rate is 20.75% for calendar year 2013, the same as the prior year. The contribution rate determined by the June 30, 2011 valuation becomes effective on January 1, 2013. Therefore, the actual dollar amount of employer cost will depend on the actual payroll during calendar year 2013.

At the December 16, 2011 meeting, the Board resolved to discontinue the use of the contribution rate smoothing rules. Beginning with the June 30, 2011 valuation, the Board will set, at its discretion, the applicable contribution rate upon considering the results of the actuarial valuation and other actuarial analysis as appropriate.

Members of the C&E Fund contribute 4% of their compensation to the Plan. If a member terminates employment with less than 15 years of service, the accumulated contributions with interest can be withdrawn as a lump sum or the member may direct the C&E Fund to make a direct rollover of the distribution amount. When a member becomes vested with at least 15 years of service, the member account balance may not be refunded and is instead combined with the employee contributions in order to fund the member's future retirement annuity benefit.

#### **Funded Status**

The funded status of the C&E Fund is measured by the funded ratio, which is the ratio of the assets available for benefits to a benefit liability measure for the C&E Fund. While there are several such measures that could be appropriately used, the benefit liability measure that ties most closely to INPRS's funding strategy is the Actuarial Accrued Liability ("AAL").

Using the Actuarial Value of Assets ("AVA"), an asset value that smoothes the market gains and losses over four (4) years, the C&E Fund AAL funded ratio decreased from 71.9% at June 30, 2010 to 71.5% at June 30, 2011. The decrease is primarily due to the delayed recognition of previous net asset losses in the Actuarial Value of Assets.

#### **Investment Experience**

On a Market Value basis, from June 30, 2010 to June 30, 2011, the C&E Fund experienced an approximate investment return of 19.2%. However, on an Actuarial Value basis over the same time period, the C&E Fund experienced an approximate investment return of 0.1%. The lower investment return on the AVA can be attributed to the smoothing of prior net losses that offset the gain on Market Value from June 30, 2010 to June 30, 2011.

---

## SECTION I - EXECUTIVE SUMMARY

### **HIGHLIGHTS OF THE ACTUARY'S REPORT (CONTINUED)**

#### **Cost-of-Living Adjustment**

Cost-of-living increases for retired members have historically been granted on an "ad hoc" basis. No increase in monthly benefits was provided to retired members, disabled members, or beneficiaries at July 1, 2011. Instead a "13th check" was paid to each member in pay status during September 2011. The amount of the 13th check varied based on the years of creditable service the member had earned prior to retirement.

#### **Changes in Actuarial Assumptions**

For the June 30, 2011 valuation, the Board approved the following assumption changes:

- The retirement rates were increased at ages 55, 56, and 59 to reflect recent experience.
- The future salary increase assumption decreased from 4.50% to 3.25%.

#### **Changes in Plan Provisions**

There have been no changes in the plan provisions since the June 30, 2010 valuation.

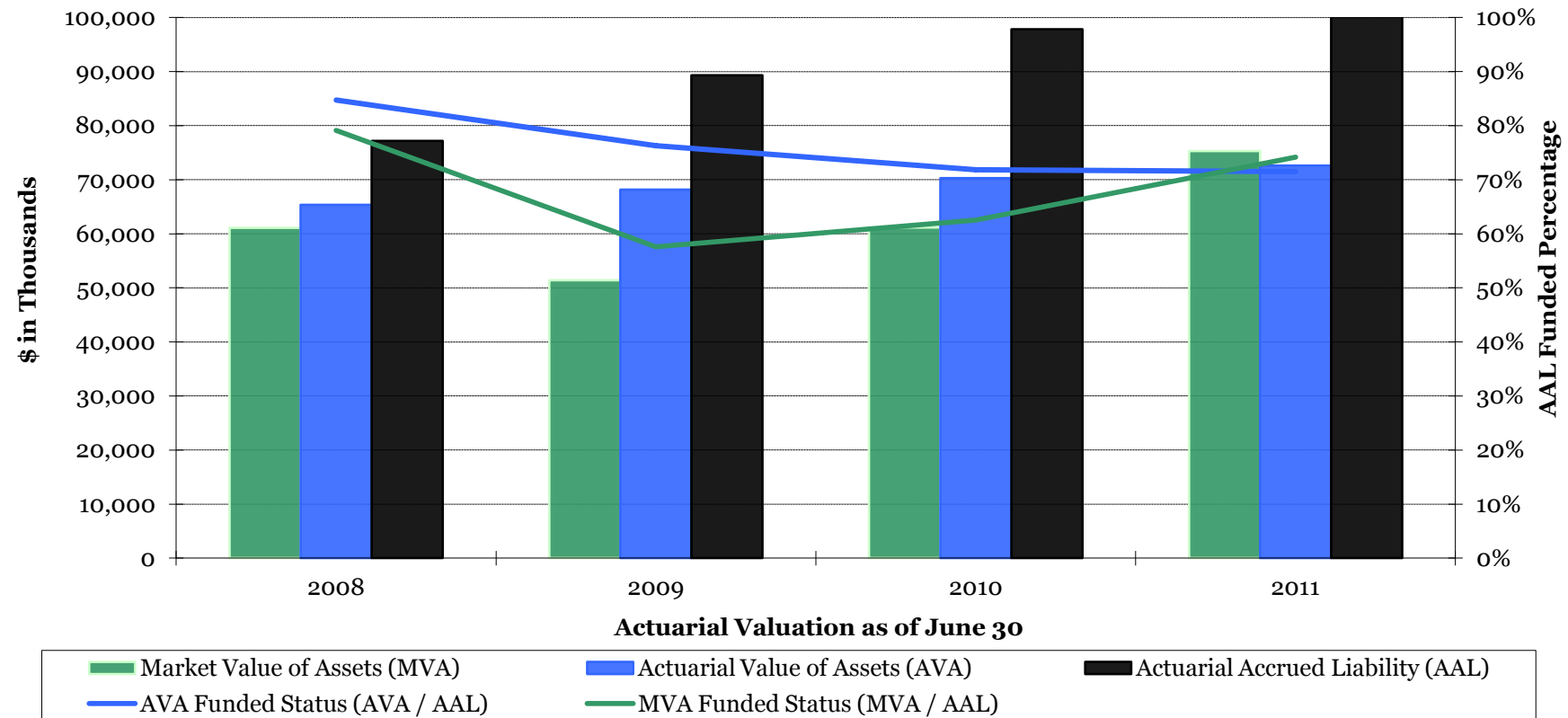
#### **Changes in Actuarial Methods**

At the December 16, 2011 meeting, the Board resolved to discontinue the use of the contribution rate smoothing rules.

## SECTION I - EXECUTIVE SUMMARY

### HISTORICAL SUMMARY

#### C&E Fund – 4 Year History of Funded Status <sup>1</sup>



<u>Actuarial Valuation as of June 30:</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Actuarial Accrued Liability (AAL)	\$77,176.7	\$89,295.6	\$97,861.6	\$101,533.8
Actuarial Value of Assets (AVA)	65,375.1	68,169.9	70,326.8	72,599.4
Market Value of Assets (MVA)	61,075.5	51,404.2	61,174.5	75,305.7
Unfunded Liability (AAL - AVA)	11,801.5	21,125.7	27,534.8	28,934.4
AVA Funded Status (AVA / AAL)	84.7%	76.3%	71.9%	71.5%
MVA Funded Status (MVA / AAL)	79.1%	57.6%	62.5%	74.2%

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

## SECTION I - EXECUTIVE SUMMARY

### HISTORICAL SUMMARY (CONTINUED)

	<u>Summary of Valuation Results <sup>1</sup></u>			
	<u>June 30, 2008</u>	<u>June 30, 2009</u>	<u>June 30, 2010</u>	<u>June 30, 2011</u>
Development of True Rate <sup>2</sup>				
Normal Cost (Beginning of Year)	\$ 2,948,557	\$ 3,714,781	\$ 4,118,442	\$ 3,377,658
Amortization of Unfunded Actuarial Accrued Liability	918,419	1,662,273	2,129,167	2,260,987
Interest Adjustment <sup>3</sup>	140,178	194,918	-	-
Employee Contributions	(853,337)	(1,009,533)	(1,068,362)	(961,138)
Total Contribution Amount	\$ 3,153,817	\$ 4,562,439	\$ 5,179,247	\$ 4,677,507
True Contribution Rate	14.8%	18.1%	19.4%	19.5%
Approved Funding Rate <sup>2</sup>				
Approved Contribution Rate <sup>4</sup>	20.75%	20.75%	20.75%	20.75%
Estimated Contribution Amount <sup>5</sup>	4,426,685	5,236,952	\$ 5,542,128	\$ 5,230,933

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

<sup>2</sup> The rates and contribution amounts shown were developed on a funding basis only and do not reflect accounting requirements.

<sup>3</sup> Valuation results prior to June 30, 2010 included an interest adjustment to the middle of the year because the payroll used for computing contribution rates was not discounted to the beginning of the year.

<sup>4</sup> The Approved Contribution Rates shown are based on the payroll as of June 30, 2011.

<sup>5</sup> Estimated Contribution Amounts results prior to June 30, 2011 are based on actual payroll as of the valuation date. The Estimated Contribution Amounts for June 30, 2011 is based on projected payroll to the date contribution rates go into effect. The contribution rate determined by the June 30, 2011 valuation becomes effective on January 1, 2013. The actual dollar amount of employer cost will depend on the actual payroll during calendar year 2013.



## SECTION I - EXECUTIVE SUMMARY

### **HISTORICAL SUMMARY (CONTINUED)**

#### **Summary of Valuation Results (Continued) <sup>1</sup>**

	<u>June 30, 2008</u>	<u>June 30, 2009</u>	<u>June 30, 2010</u>	<u>June 30, 2011</u>
Census Information				
Active				
Number	410	443	471	440
Average Age	39.9	41.1	41.3	41.5
Average Years of Service	10.7	10.6	11.0	10.9
Covered Payroll of Actives	\$ 21,333,420	\$ 25,238,325	\$ 26,709,051	\$ 24,028,462
Inactive- Vested				
Number	20	7	4	5
Average Age			49.7	48.2
Average Years of Service			19.8	20.5
Inactive - Non-Vested <sup>2</sup>				
Number			52	59
Retiree/Beneficiary/Disabled				
Number	137	157	157	176
Average Age			69.1	68.4
Annual Benefits Payable	\$ 2,518,337	\$ 3,055,992	\$ 3,134,088	\$ 3,978,369

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

<sup>2</sup> For June 30, 2011, inactive non-vested members entitled to a refund of their ASA account have balances totaling \$135,809.

## SECTION I - EXECUTIVE SUMMARY

### HISTORICAL SUMMARY (CONTINUED)

#### Summary of Valuation Results (Continued) <sup>1</sup>

	<u>June 30, 2008</u>	<u>June 30, 2009</u>	<u>June 30, 2010</u>	<u>June 30, 2011</u>
<b>Actuarial Accrued Liability (AAL)</b>				
ASA Account Balance	\$ 4,314,000	\$ 5,274,000	\$ 6,219,590	\$ 6,270,943
Retiree/Beneficiary/Disabled	28,902,141	35,039,233	36,043,925	46,695,123
Active and Inactive	<u>43,960,515</u>	<u>48,982,351</u>	<u>55,598,169</u>	<u>48,567,782</u>
Total	\$ 77,176,656	\$ 89,295,584	\$ 97,861,684	\$ 101,533,848
<b>Actuarial Value of Assets (AVA)</b>				
ASA Account Balance	\$ 4,314,000	\$ 5,274,000	\$ 6,219,590	\$ 6,270,943
Retiree/Beneficiary/Disabled	28,902,141	35,039,233	36,043,925	46,695,123
Active and Inactive	<u>32,158,999</u>	<u>27,856,644</u>	<u>28,063,267</u>	<u>19,633,383</u>
Total	\$ 65,375,140	\$ 68,169,877	\$ 70,326,782	\$ 72,599,449
<b>Market Value of Assets (MVA)</b>				
ASA Account Balance	\$ 4,314,000	\$ 5,274,000	\$ 6,219,590	\$ 6,270,943
Retiree/Beneficiary/Disabled	28,902,141	35,039,233	36,043,925	46,695,123
Active and Inactive	<u>27,859,371</u>	<u>11,090,960</u>	<u>18,910,969</u>	<u>22,339,674</u>
Total	61,075,512	51,404,193	61,174,484	75,305,740
<b>Unfunded Actuarial Accrued Liability: AAL - AVA</b>				
ASA Account Balance	\$ -	\$ -	\$ -	\$ -
Retiree/Beneficiary/Disabled	-	-	-	-
Active and Inactive	<u>11,801,516</u>	<u>21,125,707</u>	<u>27,534,902</u>	<u>28,934,399</u>
Total	\$ 11,801,516	\$ 21,125,707	\$ 27,534,902	\$ 28,934,399
<b>Funded Percentage: AVA / AAL</b>				
ASA Account Balance	100.0%	100.0%	100.0%	100.0%
Retiree/Beneficiary/Disabled	100.0%	100.0%	100.0%	100.0%
Active and Inactive	<u>73.2%</u>	<u>56.9%</u>	<u>50.5%</u>	<u>40.4%</u>
Total	84.7%	76.3%	71.9%	71.5%
<b>Summary of Assumptions</b>				
Valuation Interest Rate	7.25%	7.25%	7.0%	7.0%
Salary Scale	4.5%	4.5%	4.5%	3.25%
Cost-of-Living Assumption	1.5%	1.5%	1.0%	1.0%

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

---

## SECTION II - FUNDING

### **FUNDING**

	<u>Page</u>
A. Development of Funded Status	7
B. Unfunded Actuarial Accrued Liability Reconciliation	8
C. Actuarial Accrued Liability Reconciliation	9
D. Reconciliation of Market Value of Assets	10
E. Reconciliation of Actuarial Value of Assets	11
F. Contribution Rate	12
G. Unfunded Actuarial Accrued Liability Amortization Schedule	13
H. History of Employer Contribution Rates	14
I. Approximate Investment Return for Year Ending June 30, 2011	15
J. Historical Investment Experience	15

## SECTION II - FUNDING

### A. Development of Funded Status

	<u>June 30, 2010</u>	<u>June 30, 2011</u>
1. Actuarial Accrued Liability		
a. Annuity Savings Account	\$ 6,219,590	\$ 6,270,943
b. Retirees, Beneficiaries, and Disableds	36,043,925	46,695,123
c. Actives and Inactives	<u>55,598,169</u>	<u>48,567,782</u>
d. Total: (1)(a) + (1)(b) + (1)(c)	\$ 97,861,684	\$ 101,533,848
2. Actuarial Value of Assets		
a. Annuity Savings Account	\$ 6,219,590	\$ 6,270,943
b. Retirees, Beneficiaries, and Disableds	36,043,925	46,695,123
c. Actives and Inactives	<u>28,063,267</u>	<u>19,633,383</u>
d. Total: (2)(a) + (2)(b) + (2)(c)	\$ 70,326,782	\$ 72,599,449
3. Unfunded Actuarial Accrued Liability		
a. Annuity Savings Account: (1)(a) - (2)(a)	\$ -	\$ -
b. Retirees, Beneficiaries, and Disableds: (1)(b) - (2)(b)	-	-
c. Actives and Inactives: (1)(c) - (2)(c)	<u>27,534,902</u>	<u>28,934,399</u>
d. Total: (1)(d) - (2)(d)	\$ 27,534,902	\$ 28,934,399
4. Funded Percentage		
a. Annuity Savings Account: (2)(a) / (1)(a)	100.0%	100.0%
b. Retirees, Beneficiaries, and Disableds: (2)(b) / (1)(b)	100.0%	100.0%
c. Actives and Inactives: (2)(c) / (1)(c)	<u>50.5%</u>	<u>40.4%</u>
d. Total: (2)(d) / (1)(d)	71.9%	71.5%

## SECTION II - FUNDING

### B. Unfunded Actuarial Accrued Liability Reconciliation <sup>1</sup>

	<u>June 30, 2010</u>	<u>June 30, 2011</u>
1. Unfunded Actuarial Accrued Liability, Prior Year	\$ 21,125,707	\$ 27,534,902
2. Unfunded Actuarial Accrued Liability (Gain) / Loss		
a. Actuarial Value of Assets Experience	\$ 5,255,972	\$ 5,187,233
b. Actuarial Accrued Liability Experience	(1,834,660)	(2,091,612)
c. Additional Liability Due to Transition from Prior Actuary	912,215	-
d. Additional Liability Due to Changes in Actuarial Assumptions	2,326,842	(1,345,358)
e. Additional Liability Due to Changes in Plan Provisions	-	-
f. Total New Amortization Bases:	\$ 6,660,369	\$ 1,750,263
(2)(a) + (2)(b) + (2)(c) + (2)(d) + (2)(e)		
g. Amortization of Existing Bases	(251,174)	(350,766)
h. Change in Unfunded Actuarial Accrued Liability:	\$ 6,409,195	\$ 1,399,497
(2)(f) + (2)(g)		
3. Unfunded Actuarial Accrued Liability, Current Year: (1) + (2)(h)	\$ 27,534,902	\$ 28,934,399

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

---

## SECTION II - FUNDING

### C. Actuarial Accrued Liability Reconciliation

1.	June 30, 2010 Actuarial Accrued Liability	\$	97,861,684		
2.	Normal Cost		4,118,442		
3.	Actual Benefit Payments		4,007,649		
4.	Interest of 7.00% on (1) + (2) - (3)/2		<u>6,998,341</u>		
5.	Expected June 30, 2011 Actuarial Accrued Liability: (1) + (2) - (3) + (4)	\$	104,970,818		
			<u>Dollar Change in Liability</u>	<u>Percent Change in Liability</u>	
6.	(Gain)/Loss Components				
a.	Census	\$	(2,091,612)		(2.0%)
b.	Assumption Changes		<u>(1,345,358)</u>		<u>(1.3%)</u>
c.	Total: (6)(a) + (6)(b)	\$	(3,436,970)		(3.3%)
7.	Actual June 30, 2011 Actuarial Accrued Liability: (5) + (6)(c)	\$	<b>101,533,848</b>		

## SECTION II - FUNDING

### D. Reconciliation of Market Value of Assets

	<u>June 30, 2010</u>	<u>June 30, 2011</u>
1. Market Value of Assets, Prior June 30	\$ 51,404,193	\$ 61,174,484
2. Receipts		
a. Employer Contributions	\$ 5,255,851	\$ 5,196,629
b. Employee Contributions	1,010,064	1,002,097
c. Investment Income and Dividends Net of Fees	6,709,728	12,011,733
d. Security Lending Income Net of Fees	39,508	40,703
e. Net Transfers In	8,523	-
f. Miscellaneous Income	-	-
g. Total Receipts: (2)(a) + (2)(b) + (2)(c) + (2)(d) + (2)(e) + (2)(f)	\$ 13,023,674	\$ 18,251,162
3. Disbursements		
a. Benefits Paid During the Year	\$ 3,150,026	\$ 3,909,059
b. Refund of Contributions and Interest	30,993	98,590
c. Administrative Expenses	72,364	112,257
d. Net Transfers Out	-	-
e. Miscellaneous Disbursements	-	-
f. Total Disbursements: (3)(a) + (3)(b) + (3)(c) + (3)(d) + (3)(e)	\$ 3,253,383	\$ 4,119,906
4. Market Value of Assets, Current June 30: (1) + (2)(g) - (3)(f)	\$ <b>61,174,484</b>	\$ <b>75,305,740</b>
5. Market Value of Assets Approximate Annual Rate of Investment Return	12.6%	19.2%

## SECTION II - FUNDING

### E. Reconciliation of Actuarial Value of Assets

1.	Market Value of Assets, June 30, 2010			\$	61,174,484
2.	Market Value of Assets, June 30, 2011				75,305,740
3.	Expected Earnings/Expenses				
a.	Expected Investment Earnings at 7.00% on June 30, 2010 Market Value				4,282,214
b.	Receipts and Expected Investment Earnings at 7.00%				6,415,681
c.	Disbursements and Expected Investment Earnings at 7.00%				4,147,917
4.	Expected Assets, June 30, 2011: (1) + (3)(a) + (3)(b) - (3)(c)			\$	67,724,462
5.	2010-2011 Gain/(Loss): (2) - (4)				7,581,278
6.	Smoothing of (Gain)/Loss				
	<u>Year</u>	<u>Gain/(Loss)</u>	<u>% Unrecognized</u>		
a.	2010-2011	\$ 7,581,278	75%		5,685,959
b.	2009-2010	2,837,932	50%		1,418,966
c.	2008-2009	(17,594,536)	25%		(4,398,634)
7.	Preliminary Actuarial Value of Assets, June 30, 2011: (2) - (6)(a) - (6)(b) - (6)(c)			\$	72,599,449
8.	Corridor				
a.	120% of Market Value				90,366,888
b.	80% of Market Value				60,244,592
9.	Actuarial Value of Assets, June 30, 2011			\$	<b>72,599,449</b>
10.	Actuarial Value of Assets as a Percent of Market Value: (9) / (2)				96.4%
11.	Actuarial Value of Assets Approximate Annual Rate of Investment Return				0.1%



## SECTION II - FUNDING

### F. Contribution Rate

	<u>June 30, 2010</u>	<u>June 30, 2011</u>
<b>Development of Annual Required Contribution:</b>		
1. Current Payroll	\$ 26,709,051	\$ 24,028,462
2. Normal Cost (Beginning of Year)		
a. Amount	4,118,442	3,377,658
b. Percentage of Payroll	15.42%	14.06%
3. Unfunded Actuarial Accrued Liability (UAAL) Annual Amortizations		
a. Amount	2,129,167	2,260,987
b. Percentage of Payroll	7.97%	9.41%
4. Expected Employee Contributions		
a. Amount	1,068,362	961,138
b. Percentage of Payroll	4.00%	4.00%
5. Annual Required Contribution Rate (True Rate, Before Smoothing): (2)(b) + (3)(b) - (4)(b)	<b>19.39%</b>	<b>19.47%</b>
6. Estimated Annual Required Contribution Amount		
a. Fiscal Year Beginning	January 1, 2012	January 1, 2013
b. Anticipated Payroll: (1) x [(1 + Salary Increase)^1.5]	\$ 28,532,045	\$ 25,209,316
c. Amount: (5) x (6)(b) <sup>1</sup>	<b>\$ 5,532,364</b>	<b>\$ 4,908,254</b>
<b>Development of Funding Rate:</b>		
7. Prior Year Actual Rate	20.75%	
8. Difference between True Rate and Prior Year Actual Rate: (5) - (7)	(1.36%)	
9. One-half the difference in (8), rounded up to the next quarter percent	(0.75%)	
10. Smoothed Rate: [(7) + (9), not less than (7)]	20.75%	
<b>Approved Funding Rate:</b>	<b>20.75%</b>	<b>20.75%</b>

<sup>1</sup> Since the contribution rate becomes effective one and a half years after the valuation date, the Annual Required Contribution Amount is estimated by assuming payroll will increase 3.25% (4.5% as of June 30, 2010) per year and then applying the Annual Required Contribution Rate computed at the valuation date.

## SECTION II - FUNDING

### G. Unfunded Actuarial Accrued Liability Amortization Schedule <sup>1</sup>

	<u>Date Base Established</u>	<u>Reason</u>	<u>Remaining Unfunded</u>	<u>Remaining Period</u>	<u>Amortization Amount</u>
1.	6/30/2009	Actuarial Experience	\$ 20,594,277	26	\$ 1,627,545
2.	6/30/2010	Actuarial Experience and Changes in Actuarial Assumptions	6,589,859	29	501,622
3.	6/30/2011	Actuarial Experience and Changes in Actuarial Assumptions	<u>1,750,263</u>	30	<u>131,820</u>
	Total		\$ 28,934,399		\$ 2,260,987

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

---

## SECTION II - FUNDING

### H. History of Employer Contribution Rates <sup>1, 2</sup>

1. Valuation Date	2. Effective Date	3. Contribution Rate
June 30, 2007	January 1, 2009	20.75%
June 30, 2008	January 1, 2010	20.75%
June 30, 2009	January 1, 2011	20.75%
June 30, 2010	January 1, 2012	20.75%
June 30, 2011	January 1, 2013	20.75%

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

<sup>2</sup> Prior to the June 30, 2011 valuation date, rates shown reflect application of the contribution rate smoothing rules.

## SECTION II - FUNDING

### I. Approximate Investment Return for Year Ending June 30, 2011

	<u>Market Value of Assets</u>	<u>Actuarial Value of Assets</u>
1. Balance, beginning of year	\$ 61,174,484	\$ 70,326,782
2. Balance, end of year	75,305,740	72,599,449
3. Total increase: (2) - (1)	14,131,256	2,272,667
4. Contributions and Transfers In	6,198,726	6,198,726
5. Benefit payments and Transfers Out	4,007,649	4,007,649
6. Net additions: (4) - (5)	2,191,077	2,191,077
7. Net investment increase: (3) - (6)	11,940,179	81,590
8. Average assets: [(1) + (2) - (7)] / 2	62,270,023	71,422,321
9. Approximate rate of return: (7) / (8) <sup>1</sup>	19.2%	0.1%

### J. Historical Investment Experience

1. Year Ending June 30	2. <u>Approximate Annual Rate of Investment Return</u>	3. <u>Actuarial Basis</u>	4. <u>Actuarial Assumed Interest Rate</u>
	<u>Market Basis</u>		
2001	(2.6%)	5.4%	
2002	(5.3%)	0.1%	
2003	4.5%	(0.9%)	
2004	16.0%	3.0%	
2005	9.4%	6.7%	
2006	10.3%	15.2%	
2007	17.8%	15.9%	7.25%
2008	(8.1%)	8.2%	7.25%
2009	(20.8%)	(0.9%)	7.25%
2010	12.6%	(1.3%)	7.25%
2011	19.2%	0.1%	7.00%

<sup>1</sup> Net of expenses.

---

## SECTION III - ACCOUNTING

### **ACCOUNTING**

	<u>Page</u>
A. Assumptions and Methods Under GASB #25 and #27	16
B. Membership Data	16
C. Statement of Plan Net Assets	17
D. Statement of Changes in Plan Net Assets	18
E. Schedule of Funding Progress	19
F. Schedule of Employer Contributions	19
G. Development of Net Pension Obligation (NPO)	20
H. Three-Year Trend Information	20
I. Solvency Test	21

---

## SECTION III - ACCOUNTING

### **REQUIRED SUPPLEMENTARY INFORMATION UNDER GASB #25 AND #27**

#### **A. Assumptions and Methods Under GASB #25 and #27**

Under the Governmental Accounting Standards Board (GASB) Statements No. 25 and No. 27, certain information about the plan is required to be disclosed. The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation Date	June 30, 2011
Actuarial Cost Method	Entry Age Normal (Level Percent of Payroll)
Amortization Method	Level Dollar
Amortization Period	30 Years, Closed
Actuarial Value of Assets	4-Year Smoothed Market Value with 20% Corridor
Actuarial Assumptions:	
Investment Rate of Return	7.0%
Future Salary Increases	3.25% (includes 3.0% wage inflation)
Cost-of-Living Increases	1.0% compounded annually

#### **B. Membership Data**

The plan consisted of the following membership as of June 30, 2011, the date of the latest actuarial valuation:

Retired members, beneficiaries and disabled members receiving benefits:	176
Terminated vested plan members entitled to but not yet receiving benefits:	5
Terminated non-vested plan members entitled to refund of ASA balance:	59
Active Plan Members:	<u>440</u>
Total membership:	680

SECTION III - ACCOUNTING

**REQUIRED SUPPLEMENTARY INFORMATION UNDER GASB #25 AND #27 (Continued)**

**C. Statement of Plan Net Assets**

1. Assets		
a. Cash and Cash Equivalents	\$	8,603,802
b. Securities Lending Collateral		-
c. Receivables		
i. Contributions Receivable	\$	323,251
ii. Accrued Investment Income		228,487
iii. Receivables for Investment Securities		2,880,379
iv. Member Loans		-
v. Miscellaneous Receivables		-
vi. Due From Other Governmental Plans		-
vii. Due From Other Funds		-
viii. Total Receivables	\$	3,432,117
d. Investments		
i. Debt Securities	\$	19,794,949
ii. Equity Securities		30,265,259
iii. Mutual Funds		3,511,504
iv. Other Investments		15,341,946
v. Total Investments	\$	68,913,658
e. Capital Assets		-
f. Total Assets: (1)(a) + (1)(b) + (1)(c)(viii) + (1)(d)(v) + (1)(e)	\$	80,949,577
2. Liabilities		
a. Accounts Payable	\$	2,198
b. Salaries and Benefits Payable		-
c. Investments Payable		5,151,090
d. Securities Lending Collateral		-
e. Due To Other Governmental Plans		-
f. Due To Other Funds		490,549
g. Total Current Liabilities	\$	5,643,837
h. Compensated Absences - Long Term		-
i. Total Liabilities: (2)(a) + (2)(b) + (2)(c) + (2)(d) + (2)(e) + (2)(f) + (2)(g) + (2)(h)	\$	5,643,837
3. Net Assets Held in Trust for Pension Benefits: (1)(f) - (2)(i)	\$	<b>75,305,740</b>

SECTION III - ACCOUNTING

**REQUIRED SUPPLEMENTARY INFORMATION UNDER GASB #25 AND #27 (CONTINUED)**

**D. Statement of Changes in Plan Net Assets**

1.	Net Assets as of June 30, 2010	\$	61,174,484
2.	Revenue (Additions)		
a.	Contributions		
i.	Member Contributions	\$	1,002,097
ii.	Employer Contributions		5,196,629
iii.	Other Contributions		-
iv.	Total Contributions	\$	6,198,726
b.	Investment Income/Loss		
i.	Investment Income/Loss	\$	12,438,769
ii.	Securities Lending Income		54,067
iii.	Securities Lending Expenses		(13,364)
iv.	Other Investment Expenses		(427,036)
v.	Net Investment Income	\$	12,052,436
c.	Other Additions		
i.	Intergovernmental Transfers	\$	-
ii.	Miscellaneous Income		-
iii.	Total Other Additions	\$	-
d.	Total Revenue (Additions): (2)(a)(iv) + (2)(b)(v) + (2)(c)(iii)	\$	18,251,162
3.	Expenses (Deductions)		
a.	Pension and Disability Benefits	\$	3,909,059
b.	Death, Survivor, and Funeral Benefits		-
c.	Distributions of Contributions and Interest		98,590
d.	Intergovernmental Transfers		-
e.	Pensions Relief Distributions		-
f.	Local Unit Withdrawals		-
g.	Administrative Expenses		112,257
h.	Total Expenses (Deductions): (3)(a) + (3)(b) + (3)(c) + (3)(d) + (3)(e) + (3)(f) + (3)(g)	\$	4,119,906
4.	Changes in Net Assets Held in Trust for Pension Benefits: (2)(d) - (3)(h)	\$	14,131,256
5.	Net Assets as of June 30, 2011: (1) + (4)	\$	75,305,740



# SECTION III - ACCOUNTING

## REQUIRED SUPPLEMENTARY INFORMATION UNDER GASB #25 AND #27 (CONTINUED)

### E. Schedule of Funding Progress <sup>1</sup>

(\$ in Thousands)

1. Actuarial Valuation Date June 30	2. Actuarial Value of Assets	3. Actuarial Accrued Liability (AAL)	4. Unfunded Actuarial Accrued Liability (UAAL) (3) - (2)	5. AAL Funded Ratio (2) / (3)	6. Current Payroll	7. UAAL as a % of Payroll (4) / (6)
2006	\$ 48,496	\$ 64,765	\$ 16,269	74.9%	\$ 14,892	109.2%
2007	57,414	74,451	17,037	77.1%	17,715	96.2%
2008	65,375	77,177	11,802	84.7%	21,333	55.3%
2009	68,170	89,296	21,126	76.3%	25,238	83.7%
2010	70,327	97,862	27,535	71.9%	26,709	103.1%
2011	72,599	101,534	28,936	71.5%	24,028	120.4%

### F. Schedule of Employer Contributions <sup>1</sup>

(\$ in Thousands)

1. Plan Year Ending June 30	2. Annual Required Contribution (ARC)	3. Actual Employer Contribution	4. % of ARC (3) / (2)
2006	\$ 2,710	\$ 2,498	92.2%
2007	3,128	3,359	107.4%
2008	3,676	4,854	132.1%
2009	4,427	5,294	119.6%
2010	5,237	5,256	100.4%
2011	5,179	5,197	100.3%

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

SECTION III - ACCOUNTING

**REQUIRED SUPPLEMENTARY INFORMATION UNDER GASB #25 AND #27 (CONTINUED)**

**G. Development of Net Pension Obligation (NPO) <sup>1</sup>**

(\$ in Thousands)

1. Plan Year Ending June 30	2. Annual Required Contribution (ARC)	3. Interest on NPO at Discount Rate	4. ARC Adjustment (9) / (5)	5. Amortization Factor	6. Net Pension Cost (NPC) (2) + (3) - (4)	7. Actual Employer Contribution	8. Change in NPO (6) - (7)	9. NPO at Beginning of Year	10. NPO at End of Year (8) + (9)
2009	\$ 4,427	\$ (126)	\$ (143)	12.1037	\$ 4,444	\$ 5,294	\$ (849)	\$ (1,732)	\$ (2,581)
2010	5,237	(187)	(213)	12.1037	5,263	5,256	7	(2,581)	(2,574)
2011	5,179	(180)	(207)	12.4090	5,206	5,197	9	(2,574)	(2,565)

**H. Three-Year Trend Information <sup>1</sup>**

(\$ in Thousands)

1. Plan Year Ending June 30	2. Net Pension Cost (NPC)	3. Actual Employer Contribution	4. % of NPC (3) / (2)
2009	\$ 4,444	\$ 5,294	119.1%
2010	5,263	5,256	99.9%
2011	5,206	5,197	99.8%

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

## SECTION III - ACCOUNTING

### I. Solvency Test <sup>1</sup>

Portion of Actuarial Liability Provided by Assets  
(\$ in Thousands)

1. As of June 30	2. ASA Balances	3. Retired and Beneficiaries	4. Non-Retired Members (Employer Financed Portion)	5. Total Actuarial Accrued Liabilities	6. Actuarial Value of Assets
2005	\$ 3,488 100.0%	\$ 18,907 100.0%	\$ 37,569 51.3%	\$ 59,964 69.5%	\$ 41,663
2006	3,644 100.0%	20,870 100.0%	40,251 59.6%	64,765 74.9%	48,496
2007	3,527 100.0%	24,606 100.0%	46,318 63.2%	74,451 77.1%	57,414
2008	4,314 100.0%	28,902 100.0%	43,961 73.2%	77,177 84.7%	65,375
2009	5,274 100.0%	35,039 100.0%	48,983 56.9%	89,296 76.3%	68,170
2010	6,220 100.0%	36,044 100.0%	55,598 50.5%	97,862 71.9%	70,327
2011	6,271 100.0%	46,695 100.0%	48,568 40.4%	101,534 71.5%	72,599

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

---

## SECTION IV - CENSUS DATA

### **CENSUS DATA**

	<u>Page</u>
A. Reconciliation of Participant Data	22
B. Census Information	23
C. Schedule of Active Member Valuation	24
D. Schedule of Retirees, Beneficiaries, and Disabled Members	25
E. Distribution of Active Members by Age and Service	26
F. Distribution of Inactive Vested Members by Age and Service	27
G. Distribution of Retired Members, Beneficiaries, and Disabled Members by Age and Number of Years Retired 1	28
H. Schedule of Benefit Recipients by Type of Benefit Option	29
I. Schedule of Average Benefit Payments as of June 30, 2011	29

SECTION IV - CENSUS DATA

**A. Reconciliation of Participant Data**

	Actives	Inactive Non-Vested ASA Balance	Inactive Vested	Disabled	Retired	Beneficiary	Total
Total as of June 30, 2010	471	52	4	2	112	43	684
New Entrants	10	-	-	-	-	-	10
Rehires	-	-	-	-	-	-	-
Non-Vested Terminations	(10)	10	-	-	-	-	-
Vested Terminations	(2)	-	2	-	-	-	-
Retirements	(22)	-	-	-	22	-	-
Disablements	-	-	-	-	-	-	-
Death with Beneficiary	-	-	-	-	(3)	3	-
Death without Beneficiary	-	-	-	-	-	(3)	(3)
Refunds	(7)	(6)	(1)	-	-	-	(14)
Data Adjustments	-	3	-	-	-	-	3
Total as of June 30, 2011	440	59	5	2	131	43	680

## SECTION IV - CENSUS DATA

### B. Census Information

	<u>June 30, 2010</u>	<u>June 30, 2011</u>
1. Active		
a. Number	471	440
b. Average Age	41.3	41.5
c. Average Years of Service	11.0	10.9
d. Covered Payroll of Actives	\$ 26,709,051	\$ 24,028,462
2. Inactive - Vested		
a. Number	4	5
b. Average Age	49.7	48.2
c. Average Years of Service	19.8	20.5
3. Inactive - Non-Vested <sup>1</sup>		
a. Number	52	59
4. Retiree/Beneficiary/Disabled		
a. Number	157	176
b. Average Age	69.1	68.4
c. Annual Benefits Payable	\$ 3,134,088	\$ 3,978,369

<sup>1</sup> For June 30, 2011, inactive non-vested members entitled to a refund of their ASA balances totaling \$135,809.

## SECTION IV - CENSUS DATA

### C. Schedule of Active Member Valuation Data <sup>1</sup>

1. As of June 30	2. Active Members	3. Annual Payroll (\$ in Thousands)	4. Average Pay (3) / (2)	5. Annual Percent Increase
2005	262	\$ 13,223	50,469	24.1%
2006	310	14,892	48,038	(4.8%)
2007	344	17,715	51,497	7.2%
2008	410	21,333	52,033	1.0%
2009	443	25,238	56,971	9.5%
2010	471	26,709	56,707	(0.5%)
2011	440	24,028	54,609	(3.7%)

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

## SECTION IV - CENSUS DATA

### **D. Schedule of Retirees, Beneficiaries, and Disabled Members <sup>1</sup>**

1.	2.	3.	4.	5.	6.	7.	8.	9.
	Added		Removed		End of Year <sup>2</sup>			
Fiscal Year Ending		Annual		Annual		Annual	% Increase in	Average
June 30	Number	Allowances	Number	Allowances	Number	Allowances	Annual	Annual
		(\$ in Thousands)		(\$ in Thousands)		(\$ in Thousands)	Allowances	Allowances
2005	4	\$ 114	4	\$ 65	128	\$ 1,787	2.8%	\$ 13,962
2006	5	127	1	26	132	1,888	5.6%	14,304
2007	13	359	5	74	140	2,176	15.2%	15,539
2008	9	302	12	119	137	2,518	15.8%	18,382
2009	59	748	39	258	157	3,056	21.3%	19,465
2010	6	136	6	49	157	3,134	2.6%	19,962
2011	22	902	3	23	176	3,978	26.9%	22,602

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

<sup>2</sup> End of year annual allowances are not equal to the prior end of year annual allowances plus additions and less removals because of reductions for beneficiary benefits, data changes, and cost-of-living increases.



SECTION IV - CENSUS DATA

**E. Distribution of Active Members by Age and Service**

Attained Age	Distribution of Active Members by Age and Service as of June 30, 2011										Total
	Under 1 year	1 to 4 years	5 to 9 years	10 to 14 years	15 to 19 years	20 to 24 years	25 to 29 years	30 to 34 years	35 to 39 years	Over 40 years	
<25	1	3									4
25-29	4	38	14								56
30-34	1	35	38	5							79
35-39	2	21	19	16	3						61
40-44		19	15	12	21	2					69
45-49		9	9	4	7	21	8				58
50-54	3	13	2	2	1	5	15	8			49
55-59		12	7			1	6	14	5		45
60-64		5	5				1	2	4		17
65-69		1	1								2
70&Up											
Total	11	156	110	39	32	29	30	24	9		440

SECTION IV - CENSUS DATA

**F. Distribution of Inactive Vested Members by Age and Service**

<b>Attained Age</b>	Distribution of Inactive Vested Members by Age and Service as of June 30, 2011					
	Under 15 years	15 to 19 years	20 to 24 years	25 to 29 years	Over 30 years	Total
<25						
25-29						
30-34						
35-39		1				1
40-44						
45-49		1	1			2
50-54		1				1
55-59						
60-64					1	1
65-69						
70&Up						
Total		3	1		1	5

SECTION IV - CENSUS DATA

**G. Distribution of Retired Members, Beneficiaries, and Disabled Members by Age and Number of Years Retired <sup>1</sup>**

<b>Attained Age</b>	Distribution of Retired Members, Beneficiaries, and Disabled Members by Age and Number of Years Retired as of June 30, 2011							
	Under 5 years	5 to 9 years	10 to 14 years	15 to 19 years	20 to 24 years	25 to 29 years	Over 30 years	Total
<40								
40-44								
45-49								
50-54	14	1	1		1			17
55-59	16	2	3					21
60-64	28	10	1	2	1			42
65-69	3	11	11	4	1			30
70-74			12	5	2	1	1	21
75-79				6	2	2	2	12
80-84					7	5	6	18
85-89						5	6	11
90&Up					1		3	4
Total	61	24	28	17	15	13	18	176

<sup>1</sup> Three of the members do not have a date of retirement. For these members we assumed they retired at the earlier of June 30, 2011 and 65.

## SECTION IV - CENSUS DATA

### **H. Schedule of Benefit Recipients by Type of Benefit Option**

Number of Benefit Recipients by Benefit Option as of June 30, 2011

Amount of Monthly Benefit	Retiree Single Life Annuity	Retiree 50% Joint and Survivor Annuity	Survivors	Disability	Total
\$ 1 - 500	0	2	19	0	21
501 - 1,000	2	9	18	1	30
1,001 - 1,500	2	12	6	0	20
1,501 - 2,000	1	14	0	0	15
2,001 - 3,000	3	59	0	1	63
over 3,000	2	25	0	0	27
Total	10	121	43	2	176

### **I. Schedule of Average Benefit Payments as of June 30, 2011<sup>1</sup>**

	Years of Credited Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
Average Monthly Defined Benefit	\$ 1,339	\$ -	\$ -	\$ 439	\$ 894	\$ 1,757	\$ 2,507	\$ 1,884
Average Final Average Salary		\$ -	\$ -	\$ 22,436	\$ 35,889	\$ 45,638	\$ 50,797	\$ 45,695
Number of Benefit Recipients	8	0	0	11	23	54	80	176

<sup>1</sup> For some members, average salary at retirement and years of credited service was not available. The average salary for each group excluded these members. Members with credited service information that is missing are counted in the "0-4" group.

---

## SECTION V - ACTUARIAL ASSUMPTIONS AND METHODS

### **ACTUARIAL ASSUMPTIONS AND METHODS**

	<u>Page</u>
A. Actuarial Assumptions	30
B. Actuarial Methods	33

## SECTION V - ACTUARIAL ASSUMPTIONS AND METHODS

### A. Actuarial Assumptions

The assumptions used in the valuation were selected and approved by the INPRS Board of Trustees. The demographic assumptions are reviewed every five years through a study of actual experience. In this way, the actuary provides guidance to the Board in selecting the assumptions. The actuary and other economic and investment professionals also provide advice to the Board for selecting the economic assumptions. In our opinion, the assumptions are reasonable for purposes of this valuation.

Interest Rate / Investment Return	7.0% (net of administrative and investment expenses)
Interest on Member ASA Balances	7.0% per year
Future Salary Increases	3.25% per year
Inflation	3.0% per year
Cost of Living Increases	1.0% per year in retirement
Mortality (Healthy and Disabled)	2008 IRS Static Mortality projected five (5) years with Scale AA
Disability	150% of 1964 OASDI Table. Illustrative rates shown below:

<u>Age</u>	<u>Rate</u>
20	0.0900%
25	0.1275%
30	0.1650%
35	0.2205%
40	0.3300%
45	0.5400%
50	0.9090%
55	1.5135%
60	2.4405%
65+	0.0000%

## SECTION V - ACTUARIAL ASSUMPTIONS AND METHODS

### A. Actuarial Assumptions (continued)

#### Termination

Sarason T-1 Table. Illustrative rates shown below:

<u>Age</u>	<u>Rate</u>
20	5.4384%
25	4.8948%
30	3.7020%
35	2.3492%
40	1.1283%
45	0.2653%
50+	0.0000%

#### Retirement

Based on 2005 - 2010 experience. Illustrative rates shown below:

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
45	3%	54	4%
46 - 49	2%	55-59	15%
50	3%	60-64	20%
51 - 52	2%	65+	100%
53	3%		

#### Decrement Timing

Decrements are assumed to occur at the beginning of the year.

#### Spouse/Beneficiary

100% of members are assumed to be married or to have a dependent beneficiary. Males are assumed to be five (5) years older than females.

---

## SECTION V - ACTUARIAL ASSUMPTIONS AND METHODS

### A. Actuarial Assumptions (continued)

#### Data Assumptions

Actives and inactives with either no date of birth and/or no gender are assumed to be age 41 and/or male. Spouse gender is assumed to be the opposite gender of the member.

Retirees and disabled members that are not married and do not have a retirement option listed are assumed to elect a single life annuity. Retirees and disabled members that are married and do not have a retirement option listed are assumed to be receiving a 50% joint and survivor annuity. Beneficiaries that do not have a retirement option listed are assumed to receive monthly payments for life.

#### Changes in Assumptions

For the June 30, 2011 valuation, the Board approved the following assumption changes:

- The retirement rates were increased at ages 55, 56, and 59 to reflect recent experience.
- The future salary increase assumption decreased from 4.50% to 3.25%.



---

## SECTION V - ACTUARIAL ASSUMPTIONS AND METHODS

### B. Actuarial Methods

The actuarial methods used in this valuation were selected and approved by the Board. In general, the methods provide orderly funding of all benefits being accrued, as well as unfunded past-service benefit liabilities, over a period of thirty years. However, the smoothing methods employed in determining the Actuarial Value of Assets may accelerate or lengthen the effective funding period, depending on whether gains or losses are experienced. In our opinion, the actuarial methods are reasonable for the purposes of this valuation.

#### 1. Actuarial Cost Method

The actuarial cost method is Entry Age Normal - Level Percent of Payroll.

The normal cost is calculated separately for each active member and is equal to the level percentage of payroll needed as an annual contribution from entry age to retirement age to fund projected benefits. The actuarial accrued liability on any valuation date is the accumulated value of such normal costs from entry age to the valuation date.

Gains and losses occurring from census experience different than assumed, assumption changes, and benefit changes are amortized over a 30-year period with level payments each year. A new gain or loss base is established each year based on the additional gain or loss during that year and that base is amortized over a new 30-year period. The purpose of the method is to give a smooth progression of the costs from year to year and, at the same time, provide for an orderly funding of the unfunded liabilities.

#### 2. Asset Valuation Method

Actuarial Value of Assets is equal to a four-year smoothing of gains and losses on the Market Value of Assets, subject to a 20% corridor.

#### 3. Changes in Actuarial Methods

At the December 16, 2011 meeting, the Board resolved to discontinue the use of the contribution rate smoothing rules.

---

**SECTION VI - SUMMARY OF PLAN PROVISIONS**

**SUMMARY OF PLAN PROVISIONS**

Page

A. Summary of Plan Provisions

34

---

## SECTION VI - SUMMARY OF PLAN PROVISIONS

### A. Summary of Plan Provisions

The benefit provisions for the C&E Fund are set forth in IC 5-10-5.5. A summary of those defined pension benefit provisions is presented below:

Participation                      All Indiana State Excise Police Officers, all Indiana State Conservation Enforcement officers, all Indiana Gaming Agents, and all Indiana Gaming Control Officers must become members as a condition of employment.

#### Eligibility for Defined Pension Benefits

- a.    Normal Retirement      Earliest of:
  - Age 65 (mandatory retirement)
  - 15 or more years of creditable service for members hired on or after age 50
  - Age 55 with sum of age and creditable service equal to 85 or more
  - Age 50 with 25 or more years of creditable service
- b.    Early Retirement        Age 45 with 15 or more years of creditable service
- c.    Late Retirement         Subject to continued employment after normal retirement
- d.    Disability Retirement    As determined by a disability medical panel
- e.    Termination              15 or more years of creditable service and no longer active (i.e. vested inactive)
- f.    Pre-Retirement Death   15 or more years of creditable service

---

## SECTION VI - SUMMARY OF PLAN PROVISIONS

### A. Summary of Plan Provisions (continued)

#### Amount of Benefits

- |    |                       |  |
|----|-----------------------|--|
| a. | Normal Retirement     | The normal retirement benefit is a monthly annuity payable in a Joint and 50% Surviving Beneficiary form and is equal to 25% of average monthly earnings <sup>1</sup> , plus 1-2/3% of average monthly earnings for years of creditable service more than 10 years.  |
| b. | Early Retirement      | The early retirement benefit is the accrued retirement benefit determined as of the early retirement date and payable commencing at the normal retirement date. A member may elect to have the benefit commence prior to normal retirement provided the benefit is reduced by 1/4% for each month that the benefit commencement date precedes age 60.  |
| c. | Late Retirement       | The late retirement benefit is calculated in the same manner as the normal retirement benefit. Creditable service and earnings earned after normal retirement are included in the computation.   |
| d. | Disability Retirement | <p>If disability occurs in the line of duty, the disability retirement benefit is the member's monthly salary multiplied by the degree of impairment and is payable commencing the month following disability date without reduction for early commencement. The benefit shall not be less than 20% of the member's salary if the member has more than 5 years of service, or 10% if 5 or less years of service.</p> <p>If disability does not occur in the line of duty, the disability retirement benefit is equal to 50% of the member's monthly salary multiplied by the degree of impairment and is payable commencing the month following disability date without reduction for early commencement. The benefit shall not be less than 10% of the member's salary if the member has more than 5 years of service, or 5% if 5 or less years of service.</p> |

<sup>1</sup> Average monthly earnings is the monthly average of earnings during the 5 years within the 10 years preceding retirement that produce the highest such average.

---

## SECTION VI - SUMMARY OF PLAN PROVISIONS

### A. Summary of Plan Provisions (continued)

#### Amount of Benefits (continued)

- e. Termination      If termination is prior to earning 15 years of service, the member shall be entitled to a lump sum refund of employee contributions plus accumulated interest.
- If termination is after earning 15 years of service, the termination benefit is the accrued retirement benefit determined as of the termination date and payable commencing as of the normal retirement date. The member may elect to receive a reduced early retirement benefit beginning at age 45.
- f. Pre-Retirement Death      If death is prior to earning 15 years of service, the member's beneficiary or estate shall receive employee contributions plus accumulated interest.
- If death is after earning 15 years of service, the spouse or dependent beneficiary is entitled to receive the monthly survivor annuity under the assumption that the member retired on the day before the date of death.

Member Contributions      Each member is required to contribute at the rate of 4% of pay. These contributions are kept on deposit and credited with interest until such time as they are refunded or used to provide benefits at retirement.

#### Forms of Payment

- a. Single Life Annuity      Member will receive a monthly benefit for life, but there are no monthly payments to anyone after death.
- b. Joint with One-Half Survivor Benefits      Member will be paid a monthly benefit for life. After death, one-half (1/2) of the benefit will be paid to the spouse or parent for their lifetime or the dependent until age 18. If the spouse's age is more than 5 years younger than the member, the benefit is actuarially adjusted.

---

## SECTION VI - SUMMARY OF PLAN PROVISIONS

### A. Summary of Plan Provisions (continued)

Withdrawal from Fund	If a member's employment is terminated prior to eligibility for a retirement annuity, the member may withdraw their contributions from the Fund.
Deferred Retirement Option Plan (DROP)	<p>Effective July 1, 2008, a DROP is established for all plan participants.</p> <p>An employee may make a DROP election as provided in this chapter only if, immediately upon termination, he/she is eligible to receive an unreduced annual retirement allowance under the provisions of the C&amp;E Fund on his/her entry date into the DROP.</p> <p>The DROP retirement benefit will be based on average annual salary and years of creditable service on the date the member enters the DROP.</p> <p>Any member who chooses the DROP shall agree to the following:</p> <ul style="list-style-type: none"><li>- The member shall execute an irrevocable election to retire on the DROP retirement date and shall remain in active service until that date.</li><li>- While in the DROP, the member shall continue to make contributions to the C&amp;E Fund under the provisions of that fund.</li><li>- The member shall elect a DROP retirement date not less than 12 months and not more than 36 months after the member's DROP entry date.</li><li>- The member may not remain in the DROP after the date the member reaches any mandatory retirement age as set forth in the C&amp;E Fund.</li><li>- The member may make an election to enter the DROP only once in the member's lifetime.</li><li>- A member who retires on his/her DROP retirement date may elect to receive an annual retirement allowance:</li></ul>

---

## SECTION VI - SUMMARY OF PLAN PROVISIONS

### A. Summary of Plan Provisions (continued)

Deferred Retirement Option Plan (DROP) (continued) Any member who chooses the DROP shall agree to the following (continued):

- Computed as if the member had never entered the DROP; or
- Consisting of the DROP frozen benefit, plus an additional amount paid as the member elects, determined by multiplying the DROP frozen benefit by the number of months the member was in DROP.

No cost of living increase is applied to a DROP frozen benefit while the participant is in the DROP. After the participant's DROP retirement date, cost of living increases determined under the C&E Fund apply to the participant's annual retirement allowance.

Cost-of-Living Adjustments The monthly annuity benefits for members in pay status are increased periodically to preserve purchasing power that is diminished due to inflation. Such increases are not guaranteed by Statute and have historically been provided on an "ad hoc" basis.

Changes in Provisions No changes since prior valuation.

---

## SECTION VII - DEFINITIONS OF TECHNICAL TERMS

### **Definitions of Technical Terms**

	<u>Page</u>
A. Definitions of Technical Terms	39



---

## SECTION VII - DEFINITIONS OF TECHNICAL TERMS

### A. Definitions of Technical Terms

Actual Rate	For valuations prior to June 30, 2011, the contribution rate expressed as a percentage of covered payroll on an annual basis (not less than 0.0%) that is the result of applying applicable smoothing rules to the prior year Actual Rate and current year True Rate. For valuations beginning June 30, 2011, the contribution rate does not pertain to the smoothing rules previously applied.
Actuarial Accrued Liability (AAL)	That portion, as determined by a particular Actuarial Cost Method, of the Present Value of Future Benefits (PVFB) and expenses which is not provided for by future Normal Costs. Generally this means the portion of the PVFB attributable to past service.
Actuarial Assumptions	Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; changes in compensation and Government provided pension benefits; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; characteristics of future entrants for Open Group Actuarial Cost Methods; and other relevant items.
Actuarial Cost Method	A procedure for determining an actuarially equivalent allocation of the Present Value of Future Benefits to time periods, usually in the form of a Normal Cost and an Actuarial Accrued Liability.
Actuarially Equivalent	A method of making the actuarial present value of two series of payments equal as of a given date using the same assumptions.
Actuarial Gain/(Loss)	The difference between actual unfunded Actuarial Accrued Liability and anticipated unfunded Actuarial Accrued Liability — during the period between two valuation dates. It is a measurement of the difference between actual and expected experience.
Actuarial Present Value	The single amount now that is equal to a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest and by probabilities of payment.
Actuarial Valuation	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a pension plan.

---

## SECTION VII - DEFINITIONS OF TECHNICAL TERMS

### A. Definitions of Technical Terms (continued)

Actuarial Valuation Date	The date as of which an actuarial valuation is performed.
Amortization	The payment of a present value financial obligation on an installment basis over a future number of years.
Annual Required Contribution of the Employer (ARC)	The employer's periodic required contributions to a defined benefit pension plan, calculated in accordance with the plan provisions, actuarial assumptions, actuarial cost method and other actuarial method prescribed by Governmental Accounting Standards No. 25 and No. 27.
Creditable Service	Service credited under the system that was rendered before the date of the actuarial valuation.
Funding Policy	The program for the amounts and timing of contributions to be made by plan members, employer, and other contributing entities (for example, state government contributions to a local government plan) to provide the benefits specified by a pension plan.
Level Dollar Amortization Method	The amount to be amortized is divided into equal dollar amounts to be paid over a given number of years; part of each payment is interest and part is principal (similar to a mortgage payment on a building). Because payroll can be expected to increase as a result of inflation, level dollar payments generally represent a decreasing percentage of payroll; in dollars adjusted for inflation, the payments can be expected to decrease over time.
Normal Cost (NC)	That portion of the present value of future benefits which is allocated to a valuation year by the Actuarial Cost Method. The normal cost is specific to the cost method used.
Plan Assets	Resources, usually in the form of stocks, bonds, and other classes of investments, that have been segregated and restricted in a trust, or equivalent arrangement, in which (a) employer contributions to the plan are irrevocable, (b) assets are dedicated to providing benefits to retirees and their beneficiaries, and (c) assets are legally protected from creditors of the employer(s) or plan administrator, for the payment of benefits in accordance with the terms of the plan.

---

## SECTION VII - DEFINITIONS OF TECHNICAL TERMS

### A. Definitions of Technical Terms (continued)

Plan Members	The individuals covered by the terms of a pension plan. The plan membership generally includes employees in active service, terminated employees who have accumulated benefits but are not yet receiving them, and retired employees and beneficiaries currently receiving benefits.
Present Value of Future Benefits (PVFB)	Projected benefits estimated to be payable to plan members (retirees and beneficiaries, terminated employees entitled to benefits but not yet receiving them, and current active members upon retirement) as a result of their service through the valuation date and their expected future service. The actuarial present value of projected future benefits as of the valuation date is the present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment (taking into account mortality, turnover, probability of participating in plan retirement, etc.). Alternatively, it is the amount that would have to be invested on the valuation date so that the amount invested plus investment earnings will provide sufficient assets to pay the projected benefits when due.
True Rate	The precise actuarial contribution rate (not less than 0.0%) determined by summing the Normal Cost and amortization of unfunded Actuarial Accrued Liability and dividing by anticipated payroll.